

IN THE CLAIMS:

Claims 66, 78 and 79 were previously cancelled. Claim 61 has been amended herein. All of the pending claims 1 through 90 are presented below. This listing of claims will replace all prior versions and listings of claims in the application. Please enter these claims as amended.

1. (Previously presented) A fire suppression apparatus comprising:
a housing defining a first opening therein, a second opening therein and a flow path providing
fluid communication between the first opening and the second opening;
a gas-generating device located and configured to provide a flow of a first gas into the flow path
such that the flow of the first gas draws a volume of ambient air from a location outside
the housing, through the first opening and into the flow path; and
at least one oxygen-getting device disposed in the flow path, wherein the oxygen-getting device
is configured to reduce a level of oxygen in the volume of ambient air as it flows
therethrough.
2. (Original) The fire suppression apparatus of claim 1, wherein the gas-generating
device further includes a nozzle through which the first gas flows into the flow path.
3. (Original) The fire suppression apparatus of claim 2, wherein the nozzle is
configured to accelerate the flow of the first gas to a supersonic velocity.
4. (Original) The fire suppression apparatus of claim 2, wherein the nozzle is
configured to accelerate the flow of the first gas to a substantially sonic velocity.
5. (Original) The fire suppression apparatus of claim 2, wherein the gas-generating
device further includes a solid propellant composition configured to generate the first gas upon
combustion thereof.

6. (Original) The fire suppression apparatus of claim 5, wherein the solid propellant composition is configured to generate the first gas as an inert gas.

7. (Original) The fire suppression apparatus of claim 5, wherein the solid propellant composition is configured to generate a volume of at least one of N₂, H₂O and CO₂ as the first gas.

8. (Original) The fire suppression apparatus of claim 5, further comprising an igniting device configured to ignite the solid propellant composition.

9. (Original) The fire suppression apparatus of claim 8, wherein the igniting device includes at least one of a squib, a semiconductor bridge and a conductive wire.

10. (Original) The fire suppression apparatus of claim 8, further comprising an igniting composition in contact with the igniting device.

11. (Original) The fire suppression apparatus of claim 10, wherein the igniting composition is configured to produce a volume of hot gas upon ignition thereof.

12. (Original) The fire suppression apparatus of claim 10, wherein the igniting composition is configured to produce a mass of heated slag upon ignition thereof.

13. (Original) The fire suppression apparatus of claim 10, wherein the gas-generating device further includes a filter disposed between the solid propellant composition and the nozzle.

14. (Original) The fire suppression apparatus of claim 13, wherein the filter comprises at least one of screen mesh and shot material.

15. (Original) The fire suppression apparatus of claim 2, further comprising a diffuser disposed within the flow path located and configured to alter a velocity of the first gas and to effect mixing of the first gas with the volume of ambient air drawn into the flow path and thereby form a gas mixture.

16. (Original) The fire suppression apparatus of claim 15, further comprising at least one conditioning apparatus disposed within the flow path.

17. (Previously presented) The fire suppression apparatus of claim 16, wherein the at least one oxygen-getting device is disposed between the first opening and the diffuser.

18. (Previously presented) The fire suppression apparatus of claim 1, wherein the at least one oxygen-getting device includes an oxygen reactive material.

19. (Original) The fire suppression apparatus of claim 18, wherein the oxygen reactive material includes at least one of iron, nickel, copper, zirconium and titanium.

20. (Previously presented) The fire suppression apparatus of claim 1, wherein the at least one oxygen-getting device is thermally coupled to the nozzle.

21. (Previously presented) The fire suppression apparatus of claim 1, further comprising a plurality of thermally conductive fins coupled with the gas-generating device.

22. (Original) The fire suppression apparatus of claim 21, wherein the plurality of thermally conductive fins is coupled with the nozzle of the gas-generating device.

23. (Previously presented) The fire suppression apparatus of claim 22, wherein the plurality of thermally conductive fins is also coupled with the at least one oxygen-getting device.

24. (Previously presented) The fire suppression apparatus of claim 1, wherein the at least one oxygen-getting device is disposed between the diffuser and the second opening.

25. (Original) The fire suppression apparatus of claim 16, wherein the at least one conditioning apparatus includes an NO_x scavenger disposed between the diffuser and the second opening.

26. (Original) The fire suppression apparatus of claim 16, wherein the at least one conditioning apparatus includes a filter disposed between the diffuser and the second opening.

27. (Previously presented) A fire suppression apparatus comprising:
a housing defining a first opening therein, a second opening therein and a flow path providing fluid communication between the first opening and the second opening;
a gas-generating device located and configured to provide a flow of a gas into the flow path such that the flow of the gas draws a volume of ambient air from a location outside the housing, through the first opening and into the flow path, the gas-generating device including a nozzle through which the gas flows into the flow path;
a diffuser disposed within the flow path located and configured to alter a velocity of the gas and to effect mixing of the gas with the volume of ambient air drawn into the flow path and thereby form a gas mixture; and
at least one conditioning apparatus disposed within the flow path wherein the at least one conditioning apparatus includes a heat transfer device disposed between the diffuser and the second opening.

28. (Original) The fire suppression apparatus of claim 16, wherein the at least one conditioning apparatus is configured to be removed from the housing and replaced with another conditioning apparatus.

29. (Previously presented) The fire suppression apparatus of claim 1, wherein the first opening includes a first plurality of openings and wherein the second opening includes a second plurality of openings.

30. (Original) The fire suppression apparatus of claim 29, wherein the housing is formed of a metallic material.

31. (Original) The fire suppression apparatus of claim 30, wherein the housing is formed of a material comprising steel.

32. (Previously presented) The fire suppression apparatus of claim 1, wherein the gas-generating device is configured to be removed from the housing and replaced with another gas-generating device.

33. (Previously presented) The fire suppression apparatus of claim 1, wherein the housing is substantially integral with a structure associated with an environment intended to be protected by the fire suppression apparatus.

34. (Original) The fire suppression apparatus of claim 33, wherein the structure includes a room of a building.

35. (Original) The fire suppression apparatus of claim 33, wherein the structure includes a cabin of a vehicle.

36. (Previously presented) A fire suppression system comprising:
at least one fire suppression apparatus comprising:
 a housing defining a first opening therein, a second opening therein and a flow path
 providing fluid communication between the first opening and the second opening;
 a gas-generating device located and configured to provide a flow of a first gas into the
 flow path such that the flow of the first gas draws a volume of ambient air from a
 location outside the housing, through the first opening and into the flow path;
 at least one oxygen-getting device disposed in the flow path, wherein the oxygen-getting
 device is configured to reduce a level of oxygen in the volume of ambient air as it
 flows therethrough; and
a controller configured to generate a signal and transmit the signal to the at least one fire
suppression apparatus upon the occurrence of a specified event, wherein the
gas-generating device is configured to provide the flow of the first gas upon receipt of the
signal from the controller.
37. (Original) The fire suppression system of claim 36, further comprising at least
one sensor configured to generate and transmit a sensor signal to the controller.
38. (Original) The fire suppression system of claim 37, wherein the at least one
sensor further comprises at least one of a smoke detector and a temperature sensor.
39. (Original) The fire suppression system of claim 37, wherein the at least one
sensor is configured to detect the presence of a specified gas.
40. (Original) The fire suppression system of claim 36, further comprising at least
one actuator configured to generate and transmit an actuator signal to the controller.

41. (Previously presented) The fire suppression system of claim 36, further comprising at least one alarm device located and configured to receive a signal generated by an alarm and provide an alarm indicator.

42. (Original) The fire suppression system of claim 41, wherein the at least one alarm device is configured to provide at least one of a visual indicator and an auditory indicator as the alarm indicator.

43. (Original) The fire suppression system of claim 36, wherein the gas-generating device further includes a nozzle through which the first gas flows into the flow path.

44. (Original) The fire suppression system of claim 43, wherein the nozzle is configured to accelerate the flow of the first gas to a supersonic velocity.

45. (Original) The fire suppression system of claim 43, wherein the nozzle is configured to accelerate the flow of the first gas to a substantially sonic velocity.

46. (Original) The fire suppression system of claim 43, wherein the gas-generating device further includes a solid propellant composition configured to generate the first gas upon combustion thereof.

47. (Original) The fire suppression system of claim 46, further comprising an igniting device configured to ignite the solid propellant composition.

48. (Original) The fire suppression system of claim 47, further comprising an igniting composition in contact with the igniting device.

49. (Original) The fire suppression system of claim 48, wherein the igniting composition is configured to produce a volume of hot gas upon ignition thereof.

50. (Original) The fire suppression system of claim 48, wherein the igniting composition is configured to produce a mass of heated slag upon ignition thereof.
51. (Original) The fire suppression system of claim 48, wherein the gas-generating device further includes a filter disposed between the solid propellant composition and the nozzle.
52. (Original) The fire suppression system of claim 43, further comprising a diffuser disposed within the flow path located and configured to alter a velocity of the first gas and to effect mixing of the first gas with the volume of ambient air drawn into the flow path and thereby form a gas mixture.
53. (Original) The fire suppression system of claim 52, further comprising at least one conditioning apparatus disposed within the flow path.
54. (Previously presented) The fire suppression system of claim 52, wherein the at least one oxygen-getting device is disposed between the first opening and the diffuser.
55. (Previously presented) The fire suppression system of claim 36, wherein the oxygen-getting device includes an oxygen reactive material.
56. (Original) The fire suppression system of claim 55, wherein the oxygen reactive material includes at least one of iron, nickel, copper, zirconium and titanium.
57. (Previously presented) The fire suppression system of claim 36, wherein the at least one oxygen-getting device is thermally coupled to the nozzle.
58. (Previously presented) The fire suppression system of claim 52, wherein the at least one oxygen-getting device is disposed between the diffuser and the second opening.

59. (Original) The fire suppression system of claim 53, wherein the at least one conditioning apparatus includes at least one of an NO_x scavenger and a NH₃ scavenger disposed between the diffuser and the second opening.

60. (Original) The fire suppression system of claim 53, wherein the at least one conditioning apparatus includes a filter disposed between the diffuser and the second opening.

61. (Currently amended) A fire suppression system comprising:
at least one fire suppression apparatus comprising:
a housing defining a first opening therein, a second opening therein and a flow path
providing fluid communication between the first opening and the second opening;
a gas-generating device located and configured to provide a flow of a gas into the flow path such that the flow of the gas draws a volume of ambient air from a location outside the housing, through the first opening and into the flow path, wherein the gas-generating device further includes a nozzle through which the gas flows into the flow path; and
a diffuser disposed within the flow path located and configured to alter a velocity of the gas and to effect mixing of the gas with the volume of ambient air drawn into the flow path and thereby form a gas-mixture mixture; and
at least one conditioning apparatus disposed within the flow path wherein the at least one conditioning apparatus includes a heat transfer device disposed between the diffuser and the second opening; and
a controller configured to generate a signal and transmit the signal to the at least one fire suppression apparatus upon the occurrence of a specified event, wherein the gas-generating device is configured to provide the flow of the gas upon receipt of the signal from the controller.

62. (Original) The fire suppression system of claim 53, wherein the at least one conditioning apparatus is configured to be removed from the housing and replaced with another conditioning apparatus.

63. (Previously presented) The fire suppression system of claim 36, wherein the first opening includes a first plurality of openings and wherein the second opening includes a second plurality of openings.

64. (Previously presented) A fire suppression apparatus comprising:
a housing defining a first opening therein, a second opening therein and a flow path providing fluid communication between the first opening and the second opening;
a gas-generating device including a solid propellant composition disposed within a housing, wherein the solid propellant composition is configured to produce a gas upon combustion thereof;
an igniting device configured to ignite the solid propellant composition;
a nozzle coupled with the gas-generating device, wherein the nozzle is located and configured such that the gas flows through the nozzle into the flow path and also draws a volume of ambient air from a location outside the housing, through the first opening and into the flow path;
a filter disposed between the solid propellant composition and the nozzle;
a diffuser disposed within the flow path located and configured to alter a velocity of the gas and to effect mixing of the gas with the volume of ambient air drawn into the flow path and thereby form a gas mixture; and
at least one conditioning apparatus disposed within the flow path including at least one oxygen-getting device configured to reduce a level of oxygen from the volume of ambient air.

65. (Original) The fire suppression apparatus of claim 64, wherein the first opening further comprises a first set of openings and wherein the second opening further comprises a second set of openings.

66. (Cancelled)

67. (Previously presented) The fire suppression apparatus of claim 64, wherein the at least one oxygen-getting device is thermally coupled with the nozzle.

68. (Previously presented) A method of suppressing fires, the method comprising:
providing a housing with a first opening and a second opening;
defining a flow path between the first opening and the second opening;
producing a fire-suppressing gas;
introducing the fire-suppressing gas into the flow path;
aspirating a volume of ambient air from a location external of the housing through the first opening and into the flow path;
mixing the volume of ambient air with the fire-suppressing gas to produce a gas mixture;
reducing a level of oxygen contained within the volume of ambient air including flowing the volume of ambient air over an oxygen reactive material; and
discharging the gas mixture through the second opening.

69. (Original) The method according to claim 68, wherein producing a fire-suppressing gas includes producing an inert gas.

70. (Previously presented) The method according to claim 68, wherein producing a fire-suppressing gas includes producing a gas comprising at least one of N₂, H₂O and CO₂.

71. (Original) The method according to claim 68, wherein producing a fire-suppressing gas includes combusting a solid propellant composition.

72. (Original) The method according to claim 71, wherein combusting a solid propellant composition further includes igniting a second solid composition.

73. (Original) The method according to claim 72, wherein igniting a second solid composition includes producing a heated gas from the second solid composition.

74. (Original) The method according to claim 72, wherein igniting a second solid composition includes producing a molten slag from the second solid composition.

75. (Original) The method according to claim 68, wherein introducing the fire-suppressing gas into the flow path further includes introducing the fire-suppressing gas into the flow path at a supersonic velocity.

76. (Original) The method according to claim 68, wherein introducing the fire-suppressing gas into the flow path further includes introducing the fire-suppressing gas into the flow path at a substantially sonic velocity.

77. (Original) The method according to claim 68, wherein discharging the gas mixture through the second opening includes discharging the gas mixture at a subsonic velocity.

78. (Cancelled)

79. (Cancelled)

80. (Previously presented) The method according to claim 68, wherein flowing the volume of ambient air over an oxygen reactive material further comprises flowing the volume of ambient air over a material comprising at least one of iron, copper, nickel, zirconium and titanium.

81. (Previously presented) The method according to claim 68, further comprising heating the oxygen reactive material.

82. (Original) The method according to claim 81, wherein heating the oxygen reactive material further comprises thermally coupling the oxygen reactive material with a nozzle associated with introducing the fire-suppressing gas into the flow path.

83. (Original) The method according to claim 68, further comprising reducing a velocity of the fire-suppressing gas after it is introduced into the flow path and prior to discharging the gas mixture through the second opening.

84. (Original) The method according to claim 83, wherein reducing a velocity of the fire-suppressing gas further includes flowing the fire-suppressing gas through a diffuser.

85. (Original) The method according to claim 68, further comprising flowing the gas mixture through a conditioning device.

86. (Previously presented) A method of suppressing fires, the method comprising:
providing a housing with a first opening and a second opening;
defining a flow path between the first opening and the second opening;
producing a fire-suppressing gas;
introducing the fire-suppressing gas into the flow path;
aspirating a volume of ambient air from a location external of the housing through the first opening and into the flow path;
mixing the volume of ambient air with the fire-suppressing gas to produce a gas mixture;
flowing the gas mixture through a conditioning device, wherein flowing the gas mixture through a conditioning device further comprises flowing the gas mixture through an oxygen-getting device; and
discharging the gas mixture through the second opening.

87. (Original) The method according to claim 85, wherein flowing the gas mixture through a conditioning device further comprises flowing the gas mixture through at least one of an NO_X and an NH₃ scavenger.

88. (Original) The method according to claim 85, wherein flowing the gas mixture through a conditioning device further comprises flowing the gas mixture through a filter.

89. (Previously presented) A method of suppressing fires, the method comprising:
providing a housing with a first opening and a second opening;
defining a flow path between the first opening and the second opening;
producing a fire-suppressing gas;
introducing the fire-suppressing gas into the flow path;
aspirating a volume of ambient air from a location external of the housing through the first opening and into the flow path;
mixing the volume of ambient air with the fire-suppressing gas to produce a gas mixture;
flowing the gas mixture through a conditioning device, wherein flowing the gas mixture through a conditioning device further comprises flowing the gas mixture through a heat transfer device; and
discharging the gas mixture through the second opening.

90. (Original) The method according to claim 68, wherein providing a housing with a first opening and a second opening further comprises providing a housing with a first set of openings and a second set of openings.